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BOTANY.

Check-List of New North American Plants.—The botanical publications of the Department of Agriculture at Washington are becoming year by year of more scientific value, and at the same time more useful. Botanists have come to look upon the "Contributions from the U. S. National Herbarium" as real contributions which they are glad to receive, and in which they may feel a just pride. The last number (No. 7) consists of a "Systematic and Alphabetic Index to New Species of North American Phanerogams and Pteridophytes, published in 1892," prepared by Miss Josephine A. Clark. Appearing the middle of July, it is refreshingly recent, and makes us hope that under the energetic management of Chief Coville this will be the rule with publications from his division.

The list is much like the one published last year (Sept. 20, 1892), and as then described, it is based upon the card index of new species and new combinations, made primarily for the use of the Botanical Division. Its usefulness there, suggested to Dr. Vasey its publication for the benefit of botanists throughout the country.

A marked improvement which we notice with great pleasure is the uniform decapitalization of all specific names, and the omission of the comma before the name of the author. We trust that this will hereafter be the rule in the National Herbarium.

CHARLES E. BESSEY.

Shall we Decapitalize Specific Names?—By the time that this is in print, the Botanical Club of the A. A. A. S. will have discussed and perhaps decided this question; but we wish here to record before this anticipated action, our conviction that it is but a question of time when decapitalization will be the rule. It is to be hoped that the Club will decide in favor of it now, but if it does not, it will but defer the matter a few years. The revulsion against the over-capitalization of DeCandolle, Gray and Watson may not now be strong enough to demand absolute decapitalization; it may be satisfied with retaining the capital initial for genitives of personal names, and possibly for old substantives. This would be a great improvement, inasmuch as it would require the decapitalization of nearly one-half of the names now capitalized in the new edition of Gray's Manual.

Of course, every one knows that grammatically the argument is a pretty strong one in favor of a partial capitalization, but something may be said on the other side, even on this ground. Primarily the specific name is a limiting or qualifying term, that is, it has an adjectival function, and as such it is properly written with the small initial letter. There should be no question as to such cases as *virginiana*, *coroliniana*, *pennsylvanica*, etc. Linne himself wrote them with the small initial letter, as also Willdenow and Sprengel. Why then should there be any hesitancy in writing *oakesiana*, *purshiana*, *kalmianum*, etc.? Even in Gray's Manual we have *sambucifolia*, *alnifolia*, *hyssopifolius*, *nepetaefolia*, and, most astonishing of all, *fossombronoides*. Why the Italian Fossombroni should be decapitalized here, it will puzzle any advocate of capitalization to explain.

Nothing is gained by capitalizing, and it requires some extra effort to remember whether to use the capital or not, while by decapitalizing we gain much in appearance of the printed page, and save appreciably in time and the effort to remember a complicated rule.

CHARLES E. BESSEY.

The Use of Personal Names in Designating Species.¹—

The first sentence of the thirty-second article of the Paris Code is as follows: "The specific name ought, in general, to indicate something of the appearance, the characters, the origin, the history or the properties of the species." The twenty-seventh section of the rules of nomenclature adopted in 1877 by the zoologists of the American Association for the Advancement of Science (with the advice of Dr. Gray, and other botanists) is almost identical with the foregoing: "The specific name should, in general, indicate some feature of the appearance, characters, origin, history or properties of the species." The purpose of the rule cited is, without question, to favor the adoption of names which have some real significance, and when we look over the work of the great masters in descriptive botany we see how fully they followed its spirit. In the first and third editions of Linne's "Species Plantarum" nearly all the specific names are in some degree, descriptive. One finds names as follows (pp. 118-119) *suecica*, *canadensis*, *tomentosa*, *trifoliata*, *viscosa*, *alternifolia*, *perennis*, *uniflora*, *biflora*, *umbellata*, *corymbosa*, *latifolia*, etc. If we compare Linne's practice with that of recent descriptive botanists we find a great change in the frequency with which personal names are used. In the first two hundred pages of Vol. I, of the first edition of the "Species Plantarum," including about

¹ Read before the Botanical Club of the A. A. A. S., August 21, 1893.

one thousand species, there are not to exceed seven such names, viz: *melchiorianus*, *laeflingiana*, *halleri*, *matthioli*, *Gmelini*, *monelli*, and *Osbeckii*, (notice in passing, the capitalization, which is still maintained in the third edition). Here we have less than one per cent of names derived from personal names, which is in striking contrast with what we find in recent lists.

In the list of New Species of North American Phanerogams and Pteridophytes, published in 1891, issued by the U. S. National Herbarium, *twenty-three per cent* of the specific names are derived from personal names. In the similar list for 1892 we find a little more than 18 per cent. of such names. Taking the two years together, the personal names are exactly twenty-one per cent. of the whole. Has not this thrusting forward of personal names gone entirely too far? It certainly violates every principle of good taste. Botanists may soon be properly charged by other scientific men with showing an over-eagerness to gain the petty notoriety which attaches to having one's name borne by some plant. There should be a speedy reform in this practice.

It is a proper thing to construct a euphonious name from the name of an eminent botanist, and apply it to a new genus. There is some dignity in such a procedure; but there is a great deal of difference between the dedication of a genus to a great man, and the other practice of assigning new species to every collector,—*because the collectors like it!*

CHARLES E. BESSEY.

Botany at the Madison Meetings.—The most notable gathering of American botanists in recent times took place in August of the present year in connection with the forty-second meeting of the American Association for the Advancement of Science, and the several affiliated societies. Especial efforts had been made to secure a large attendance, which was successful beyond the most sanguine expectations. But few of the more active of our botanists were absent, and these were unavoidably detained.

This being the first year of the existence of a separate section (G) of botany, all members of the Association watched the experiment with much interest. But when the permanent secretary announced in the closing general session that the new section had received *one-fifth* of all the papers presented to the Association, all doubts as to the ability of the botanists to maintain a separate section disappeared.

The session opened on Thursday, August 17, with the address of the Vice-President on "Evolution and Classification," the burden of which was that in the present classification, of the higher plants especially, the facts of evolution are practically ignored.

On Friday papers as follows were read:

G. F. ATKINSON, Photography as a means for recording the macroscopic characters of micro-organisms in artificial cultures. The author detailed his method of securing good photographs by means of oblique light in connection with a black card interposed between the object and the source of light.

G. F. ATKINSON, Symbiosis in the roots of Ophioglosseæ. A fungus appears to be present in the cortical tissues of the roots of all the species examined.

B. T. GALLOWAY, Observations on a rust affecting the leaves of the Jersey or Scrub Pine. This was a discussion of the structure of the normal and diseased leaves, and an account of the mode of infection by the parasite, *Coleosporium pini*.

W. J. BEAL, Prophylla of Gramineæ. Illustrated by drawings and sketches.

CHARLES R. BARNES, On the food of green plants. This was one of the most carefully written papers presented during the meetings. The author proposed a sharper separation of the operations concerned in the nutrition of plants, as follows: (1) *Photosyntax*, for the fixation of carbon by chlorophyll; (2) *Digestion* and (3) *Assimilation*. The publication of this paper will be looked for with interest.

J. CHRISTIAN BAY, A new infection needle for the study of lower plants. Illustrated by sketches and examples.

G. F. ATKINSON, Comparative study of the structure and function of the sporangia of ferns in the dispersion of spores. Illustrated by a number of large drawings.

BYRON D. HALSTED, The Solandi printing applied to botanical work. By the use of sensitive photographer's paper the author is able to obtain fine negatives directly from leaves, and from these he prints very useful photographs. Many specimens of this process were shown.

N. L. BRITTON, Present aspects of the nomenclature question. Analyzing the subject as it presents itself to-day. There are (1) the pre-Linnæans, who would go back in nomenclature to authors earlier than Linné; (2) those who would begin with the *Systema Naturæ* of Linné, 1735; (3) those who would begin with Linné's *Genera Plantarum*, 1737; and (4) those who with most botanists would begin with Linné's *Species Plantarum*, 1753. To these may be added (5) a few who would select a date still more recent.

T. A. WILLIAMS, Lichens of the Black Hills. Eighty-three species and varieties are known, many of which are northern and western.

J. CHRISTIAN BAY, The bibliography of American botanical literature. The author made a plea for the beginning of such work.

DOUGLAS H. CAMPBELL, Notes on the development of *Marattia douglasii*. Describing the 'prothallia, and suggesting a relationship with certain Hepaticæ.

On Monday papers were read as follows :

THEOBALD SMITH, Further observations on the fermentation-tube, with special reference to anærobiosis, reduction, and gas production. Illustrated by the apparatus used by the author.

JOHN G. JACK, The fructification of *Juniperus*. The author finds that the fruits of *J. virginiana* ripen the first season, while in *J. sabina* var. *procumbens* it requires two seasons, and in *J. communis*, three seasons.

S. G. WRIGHT, The minute structure and development of the motile organ in the leaf of the Red-bud. This was an anatomical and physiological paper.

ERWIN F. SMITH, Two new and distinctive diseases of Cucurbits. Describing an *Alternaria* on melons, and another on cucumbers and cantaloupes due to bacteria.

CONWAY McMILLAN, Preliminary statement concerning botanical laboratories and instruction in American universities and colleges. This paper was considered so important that the Association requested the Commissioner of Education at Washington to print it as one of the educational bulletins. Incidentally, it appears that many colleges are still giving *as college work*, short spring term courses in Gray's "Lessons!!"

The reading of this paper resulted in the appointment of a committee consisting of Drs. Coulter, Campbell and Britton, to inquire into the teaching of botany in the secondary schools of the United States.

BYRON D. HALSTED, The shrinkage of leaves in drying. By means of photographs by the "Solandi" process, it was shown that the shrinkage is often considerable.

M. B. THOMAS, The roots of orchids.

L. H. PAMMEL, Preliminary notes on some chromogenic bacteria of the Ames flora.

B. T. GALLOWAY, Results of some recent work on rust of wheat.

J. H. PILLSBURY, On the quantitative analysis of the colors of flowers and foliage.

For want of time the four last named were read by title.

On Tuesday the following papers were read.

S. M. TRACY, Distribution of the Gramineæ in the United States. Illustrated by many maps.

N. L. BRITTON, A consideration of species based upon the theory of evolution. An attempt to formulate our present ideas of species.

ELIZABETH G. BRITTON, A revision of the genus *Physcomitrium*. Showing that while we supposed that we had half a dozen species, it appears that we have nearly or quite double that number.

W. T. SWINGLE, On *Cephaluros mycoidea* and *Phyllosiphon* sp., two parasitic algæ new to North America. These curious plants, the first of which lives upon *Magnolia* leaves and the latter upon the leaves of *Arisema*, appear to be truly parasitic.

FREDERICK V. COVILLE, An analysis of the conditions affecting the distribution of plants. These were given as temperature, light, food, water and mechanic.

J. C. ARTHUR, Deviation in development due to the use of unripe seeds. As this paper will be published in full in the NATURALIST, no summary will now be attempted.

W. T. SWINGLE, The principal diseases of citrous fruits now being studied at Eustis, Fla. Illustrated by specimens of fresh material.

P. H. ROLFS, A sclerotium disease of plants. Giving details of the structure.

ELIZABETH G. BRITTON, *Ulota americana* Mitten and *Orthotrichum americanum* Beauv. The author discussed fully the question of their identity, which appears to be established.

The following were read by title for want of time:

L. H. PAMMEL, Notes on *Ræstelia pyrata*, Crossing of Cucurbits and A case of poisoning by the wild parsnip, *Cicuta maculata*, (three papers).

The Botanical Club held sessions on Friday, Monday and Tuesday. It received the report of the committee appointed last year to prepare a check list of North American phanerogams, and after much discussion, provision was made for printing it. In this connection, Rule III of the "Rochester Code," was modified so as to allow the use of a specific name identical with the generic. The rule now reads as follows:

"In the transfer of a species to a genus other than the one under which it was first published the original specific name is to be retained."

Another important action of the club was that relating to the proposed American botanical society. A committee of ten was elected and empowered to increase its number to twenty-five, to organize such a society. The following is the committee: J. C. Arthur, G. F.

Atkinson, C. R. Barnes, C. E. Bessey, L. H. Bailey, N. L. Britton, Mrs. E. G. Britton, J. M. Coulter, F. V. Coville, D. H. Campbell, D. C. Eaton, W. G. Farlow, E. L. Greene, B. D. Halsted, Arthur Hollick, C. MacMillan, B. L. Robinson, F. L. Scribner, C. L. Sargent, J. D. Smith, Wm. Trelease, R. Thaxter, L. M. Underwood, L. F. Ward, W. P. Wilson.

Papers were read in the club, many of them of much importance.

On Saturday the Club accompanied the Association to the Dells of the Wisconsin River, and spent a day in collecting and in the enjoyment of the beautiful scenery, with much of social pleasure.

An American botanical society is now assured. The committee to effect an organization met promptly and made preliminary arrangements for a meeting next year in connection with the Association. A sub-committee consisting of Messrs Trelease, Coulter, Bailey, MacMillan and Sargent, was appointed to attend to the details of permanent organization.

The Botanical Congress which had been called by the committee appointed for the purpose, convened at 10 o'clock, A. M., August 23, with 37 members. Since, for various reasons, but few foreign botanists were able to attend, the name adopted was the "Madison Botanical Congress." Dr. E. L. Greene of California was elected President and Henri de Vilmorin of France, and L. M. Underwood of Indiana, Vice-Presidents. J. C. Arthur of Indiana, B. L. Robinson of Massachusetts, and F. V. Coville of the District of Columbia, Secretaries. C. R. Barnes of Wisconsin was elected Treasurer.

Committee reports were received, as follows:

On the Nomenclature of Plant Diseases. After discussion this was referred to an enlarged committee, of which Dr. B. D. Halsted of New Jersey is chairman, with instructions to report in 1894 to Section G of the American Association for the Advancement of Science.

On the terminology of Vegetable Physiology; suggesting greater precision in the use of terms. This was likewise referred to a committee, with Dr. J. C. Arthur of Indiana as chairman, to report to Section G in 1894.

On the terminology of Anatomy and Morphology. After discussion a committee of five, with Dr. D. H. Campbell of California as chairman, was appointed to report in 1894 to Section G.

On the Nomenclature of Horticultural forms; recommending for the present the use of Nicholson's "Dictionary of Gardening," supplemented by the "Index Kewensis," for scientific names. This report was adopted.

On the Bibliography of North American Botany; urging the neces-

sity of the early inauguration of bibliographic work, and suggesting rules for uniform methods of citation. The congress voted affirmatively upon the first proposition, and then referred it to a committee with Dr. C. R. Barnes of Wisconsin as chairman. The rules as to methods of citation were agreed to, and will be printed in the proceedings of the congress.

On the terminology of Geographical Botany. After short discussion this was referred to a committee with F. V. Coville of the District of Columbia as chairman.

Appropriate resolutions were presented and adopted regarding the death of Alphonse de Candolle, and George Vasey.

Resolutions were adopted respecting the condition of the United States National Herbarium, at present deposited in a building in Washington which from its construction and use is liable to destruction by fire, and the United States Congress was memorialized to make early provision for a fire-proof building for the preservation of this scientific treasure. The Secretary of Agriculture was respectfully requested to urge prompt action in this matter.

The thanks of the Congress were extended to Dr. Otto Kuntze for valuable printed papers presented by him for the use of the members.

On Wednesday afternoon open invitation of the local committee of arrangements the members of the Congress took part in a botanical excursion to Lake Wingra, and after adjournment (Thursday, 5 P. M.), all enjoyed a two hours' moonlight ride upon Lake Mendota.

There is no space in this account for a full notice of the botanical papers read in the Society for the Promotion of Agricultural Science. The Secretary, Dr. Frear, communicates the following titles:

W. J. BEAL. Methods of killing Couch- or Quack-Grass.

W. J. BEAL. Some Grass Mixtures for lawns.

W. R. LAZENBY. Sub-irrigation for Green-house and Garden.

C. E. BESSEY. The Weeds of Nebraska.

B. D. HALSTED. Potatoes by the direct method.

G. F. ATKINSON. A new fungus disease of the Apple.

B. T. GALLOWAY. The *Macrosporium* disease of potatoes.

J. C. ARTHUR. A new factor in improving farm crops.

These will be published in the proceedings of the Society.

The attendance of working botanists was unusually large at all the meetings in Madison. Many men whose faces are rarely seen were present, some for the first time in their lives. A few of the active botanists of the country who have usually taken part in such meetings were missed, while on the other hand, the older members were made aware of the fact that there is a rapidly growing group of younger men who are pushing their way to the front by their good work.—CHARLES E. BESSEY.